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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
MCCREARY, LEONARD	
ART UNIT	**PAPER NUMBER**
3616	

DATE MAILED: 01/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/764,220	ROSENBALM, RONALD D.	
	Examiner	Art Unit	
	Leonard J. McCreary, Jr.	3616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 Jan 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11 and 13-20* is/are rejected.

7)☒ Claim(s) *12* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 January 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *23 Jan 2004, 13 Ju*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 13 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. 2,283,948 to Ridgway. Ridgway discloses an automobile traction device that positions traction members beneath the vehicle wheel, the device comprising:

- a frame assembly 40 arranged to be attached to a vehicle
- a swing arm 23 pivotally connected to the frame assembly by a pivot member at 28, the swing arm including a traction wheel 20 with at least one traction member 21 mounted thereon
- a linear actuator 90 having an extendible shaft 86 assembled to the swing arm by way of a connector 80, wherein extension of the shaft deploys the swing arm such that the traction wheel contacts the vehicle wheel.

The embodiment shown in Figure 4 has a linear actuator in the form of a pneumatic diaphragm 90 utilizing compressed air, and further Ridgway teaches that an electric motor may be substituted in place of the diaphragm (column 1, lines 33-36) (claim 13.)

Ridgway further discloses:

- the traction wheel 20 is connected to the swing arm 23 by a wheel bolt 22 (claim 14)

Claims 17 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. 4,745,993 to Schulz et al. Schulz discloses a centrifugal chain assembly for a motor vehicle that positions traction members beneath the vehicle wheels comprising:

- a frame assembly 30 attachable to a vehicle
- a swing arm 26 pivotally connected to the frame assembly by way of a double pivot link 30, the swing arm including a traction wheel 22 with at least one traction member 20 thereon
- a linear actuator 28 having an extendable shaft 29 assembled to the swing arm by way of a connector 32, wherein extension of the shaft deploys the swing arm such that the traction wheel is placed against the vehicle wheel (claim 17)
- the traction wheel 22 is connected to the swing arm 26 by a wheel bolt 84 (claim 18)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-9 and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. 4,745,993 to Schulz et al. in view of U.S. 2,283,948 to Ridgway. Schulz

discloses a centrifugal chain assembly for a motor vehicle that positions traction members beneath the vehicle wheels comprising:

- a frame assembly attachable to a vehicle
- a swing arm 26 pivotally connected to the frame assembly by way of a double pivot link (generally shown at 36), the swing arm including a traction wheel 22 with at least one traction member 20 thereon
- a swing arm 26 pivotally connected to the frame assembly by a pivot member (generally shown at 36), the swing arm including a traction wheel 22 with at least one traction member 20 thereon
- a linear actuator 28 having an extendable shaft 29 assembled to the swing arm by way of a connector 32, wherein extension of the shaft deploys the swing arm such that the traction wheel is placed against the vehicle wheel
- the traction wheel 22 is connected to the swing arm 26 by a wheel bolt 84 (claims 2 and 14)
- the wheel bolt 84 has an enlarged spherical head in the form of ball element 82 (claim 3)
- the connection of the traction wheel to the swing arm includes a receiver plate (102, 110, or 130) (claim 4)
- the swing arm includes a mounting end (25 or 91) that is attached to the receiver plate 110 (claim 5)
- a clearance hole (axis 27 on swing arm 26) for attaching the swing arm to the to the double pivot 30 (claim 8)

- the connector 32 is an angle joint (claim 9)

Schulz does not teach the use of an electric linear actuator, nor that the swing arm includes a pivot end constructed with two clearance holes.

In regards to claims 1 and 13, Ridgway discloses a linear actuator in the form of a pneumatic diaphragm 90 with an extendible shaft 86, and he teaches that an electric motor can be used in place of the diaphragm (column 1, lines 33-36.) It would have been obvious to one of ordinary skill in the art to modify Schulz to include the electric linear actuator taught by Ridgway so as to eliminate the need for a compressed air system on smaller, noncommercial vehicles.

In regards to claims 6, 7, and 15, Schulz does not explicitly teach how the linear actuator is connected to the swing arm 26, aside from the use of an angle pivot 32. It would have been obvious to one of ordinary skill in the art to attach the actuator shaft 29 to the swing arm by way of a conventional fastening means such as a cap screw in single shear through the actuator shaft and a second clearance hole in the pivot end of the swing arm – the first clearance hole being that of the swing arm pivot (axis 27) – secured with a nut, so as to accept standard linear actuator shaft ends that utilize a through hole and to simplify the assembly process.

Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. 4,745,993 to Schulz et al. in view of U.S. 2,283,948 to Ridgway and in further view of U.S. 3,068,949 to Sirois. The teachings of Schulz and Ridgway are discussed above. Schulz nor Ridgway teach the use of a spring to bias the traction wheel to maintain contact pressure of the traction wheel against the vehicle wheel. Sirois

teaches the use of a spring 28 to yieldably urge the swing arm 22 towards an operational position wherein the traction wheel 26 contacts the vehicle wheel 14. It would have been obvious to one of ordinary skill in the art to modify Schulz in view of the teachings of Sirois to include a spring that resiliently urges the traction wheel to maintain contact with the vehicle wheel so as to maintain constant pressure and thus increase consistency of performance while decreasing the likelihood of damage from accidental over-deployment of the swing arm (claim 10.)

In regards to claim 11, Schulz does not teach a linear actuator attached to a movable pressure plate or a back plate with a biasing spring positioned between. Ridgway teaches a linear actuator 86 attached to a movable pressure plate 103.

Ridgeway further teaches a frame assembly 40 including a back plate 102 and a spring 101 disposed between the pressure plate 103 and the back plate. It would have been obvious to one of ordinary skill in the art to modify Schulz in view of the teachings of Ridgway to include a pressure plate, back plate, and spring attached to the linear actuator so as to urge the traction wheel away from contact with the vehicle wheel to its inoperable position.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. 2,283,948 to Ridgway in view of U.S. 3,068,949 to Sirois. Ridgway's disclosure with respect to claim 13 is discussed above. Ridgway does not teach the use of a spring to bias the traction wheel to maintain contact pressure of the traction wheel against the vehicle wheel. Sirois teaches the use of a spring 28 to yieldably urge the swing arm 22 towards an operational position wherein the traction wheel 26 contacts the vehicle

wheel 14. It would have been obvious to one of ordinary skill in the art to modify Schulz in view of the teachings of Sirois to include a spring that resiliently urges the traction wheel to maintain contact with the vehicle wheel so as to maintain constant pressure and thus increase consistency of performance while decreasing the likelihood of damage from accidental over-deployment of the swing arm.

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. 4,745,993 to Schulz et al. The disclosure of Schulz is discussed above. Schulz does not explicitly teach how the linear actuator is connected to the swing arm 26, aside from the use of an angle pivot 32. It would have been obvious to one of ordinary skill in the art to attach the actuator shaft 29 to the swing arm by way of a conventional fastening means such as a cap screw in single shear through the actuator shaft and a second clearance hole in the pivot end of the swing arm – the first clearance hole being that of the swing arm pivot (axis 27) – secured with a nut, so as to accept standard linear actuator shaft ends that utilize a through hole and to simplify the assembly process.

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. 4,745,993 to Schulz et al. in view of U.S. 3,068,949 to Sirois. The disclosure of Schulz is discussed above. Schulz does not teach the use of a spring to bias the traction wheel to maintain contact pressure of the traction wheel against the vehicle wheel. Sirois teaches the use of a spring 28 to yieldably urge the swing arm 22 towards an operational position wherein the traction wheel 26 contacts the vehicle wheel 14. It would have been obvious to one of ordinary skill in the art to modify Schulz in view of the teachings of Sirois to include a spring that resiliently urges the traction wheel to

maintain contact with the vehicle wheel so as to maintain constant pressure and thus increase consistency of performance while decreasing the likelihood of damage from accidental over-deployment of the swing arm.

Allowable Subject Matter

Claim 12 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. 6,830,134 to Choi discloses a snow chain mechanism for a vehicle comprising a linear actuator and a traction wheel.

U.S. 6,062,348 to Atkinson, Jr. discloses a rapidly-deployable vehicle snow chain system having individually-replaceable interlocking chain attachment plates comprising a linear actuator, a frame member, and a traction wheel in contact with the vehicle wheel for placing traction members beneath the vehicle wheel.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonard J. McCreary, Jr. whose telephone number is 571-272-8766. The examiner can normally be reached on 0700-1700 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Dickson can be reached on 571-272-6669. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Leonard J. McCreary, Jr.
Examiner
Art Unit 3616

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PAUL N. DICKSON
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600

1/23/06